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COMMENTS ON THE NOMENCLATURE OF SOME NEOTROPICAL BATS (MAMMALIA: CHIROPTERA)

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Abstract.—We examine four nomenclatural problems concerning Neotropical bats and conclude that *Platyrrhinus* has priority over *Vampyrops*; *Anthorhina* is a junior objective synonym of *Tonatia*; and Cabrera, as first reviser, selected the spelling *Molossus barnesi* over *M. burnesi.* We recommend that Wied-Neuwied, not Oken, be considered the author of *Diclidurus albus,* although the code of zoological nomenclature does not directly address this particular situation.

We resolve four nomenclatural problems concerning Neotropical bats that arose during the course of research on Latin American mammals. The first problem concerns use of *Platyrrhinus* Saussure, 1860, versus *Vampyrops* Peters, 1865a, for a genus of relatively common fruit-eating bats (Phyllostomidae: Stenodermatinae). Next, we find that the name *Anthorhina* Lydekker, *in* Flower & Lydekker, 1891, (Phyllostomidae: Phyllostominae) has been misapplied. Third, confusion still exists over which spelling, *Molossus burnesi* or *M. barnesi* Thomas, 1905, (Molossidae) is correct according to the International Code of Zoological Nomenclature (ICZN 1985). Last, we examine the issue of authorship raised by Carter & Dolan (1978) concerning the name *Diclidurus albus.*

Platyrrhinus versus *Vampyrops*

Platyrrhinus was proposed by Saussure (1860:429) to distinguish as a group the three taxa Gervais (1856) included in his *Artibaeus* [sic] from true *Artibeus* Leach, 1821; therefore, *Platyrrhinus* Saussure is an exact equivalent of *Artibaeus* Gervais (unjustified emendation of *Artibeus* Leach). The three species of *Platyrrhinus* (Saussure, 1860) are: *P. lineatus* (Geoffroy St.-Hilaire, 1810); *P. undatus* (Gervais, 1856), = *Stenoderma rufum* Desmarest, 1820; and *P. jamaicensis* (Gervais, 1856), = *Ariteus flavescens* (Gray, 1831), not *Artibeus jamaicensis* Leach, 1821. Saussure (1860) said the most common species is *P. lineatus*; he did not select a type species for *Platyrrhinus.*

The first use of *Vampyrops* was in a prospectus of the Chiroptera by Peters (1865a: 257) as a subgenus of *Stenoderma.* Peters (1865a) listed *Platyrhinus* [sic] Saussure and *Artibeus* Gervais as the only synonyms of *Vampyrops.* These names and their respective authors constitute an indication, in the sense of Article 12 of the International Code of Zoological Nomenclature (ICZN 1985), validating *Vampyrops* from Peters (1865a), and not Peters (1865b) as usually cited. *Artibaeus* Gervais, 1856, and *Platyrrhinus* Saussure, 1860, are identical in content. *Artibaeus* Gervais is an unjustified emendation of *Artibeus* Leach, 1821, first used by Agassiz (1847); therefore, it is not an available name for this group. *Vampyrops* Peters (1865a) should be considered a new name for *Platyrrhinus* Saussure, 1860.

Peters (1865b) commented that *Platyrhinus,* which here and earlier (1860:754, 1865a:257) he spelled with one "r," had already been used in 1798 for a coleopteran. Obviously he considered the double-r spelling of *Platyrrhinus* Saussure to be equivalent to *Platyrhinus* Schellenberg, 1798, a genus of anthribid beetles. In this later paper,

Peters (1865b:356, footnote) used the name *Platyrhinus* Saussure in the synonymies of *Artibeus* Leach, *Phyllops,* and *Vampyrops.* Listing *Platyrhinus* as a synonym of *Artibeus* implies a misinterpretation of Saussures' intent, because Saussure used *Platyrhinus* to distinguish the three taxa he clearly excluded from *Artibeus.*

When Peters (1865b:356) proposed the name *Phyllops,* he listed *A. jamaicensis* Gervais under *Ph*[*yllops*]. *albomaculatus* Gundlach and *A. undatus* Gervais under *Ph*[*yllops*]. *personatus* Natterer [Wagner]. On the same page Peters listed "*Ph*[*yllostoma*]. *lineatum* Geoffroy, Gervais, and *V*[*ampyrops*]. *vittatus* Ptrs.," as the only species under *Vampyrops.* Thus he restricted *Vampyrops* to only one of the species Saussure (1860) included in *Platyrhinus.* Peters (1865b) did not indicate a type species for *Vampyrops.*

Dobson (1878) listed *Platyrrhinus* Saussure as a synonym under both *Artibeus* Leach and *Vampyrops* Peters, but inexplicably not under *Stenoderma* Geoffroy St.-Hilaire, in the synonymy of which he included *A. jamaicensis* Gervais and *A. undatus* Gervais.

Thomas (1900:269) designated *Phyllostoma lineatum* Geoffroy St.-Hilaire as the type species of *Vampyrops* Peters (1865b). Obviously, *Phyllostoma lineatum* Geoffroy St.-Hilaire is the type species of *Vampyrops* Peters (1865a:257), which is the earliest available date of its usage. Because *Vampyrops* Peters (1865a) must be considered a new or replacement name for *Platyrrhinus* Saussure, 1860, *Phyllostoma lineatum* Geoffroy St.-Hilaire is the type species of *Platyrhinus* as well. Palmer (1904:545) also identified the type species of *Platyrrhinus* Saussure as *Phyllostoma lineatum* Geoffroy St.-Hilaire, and he too believed the name to be preoccupied by *Platyrhinus* Clairville [Schellenberg], 1798.

As eloquently stated by de la Torre & Starrett (1959), *Vampyrops* had enjoyed universal usage in this century until Hershkovitz (1958:613) noted in a list of mammalian genera that *Platyrrhinus* antedated *Vampyrops.* The basic thesis of de la Torre & Starrett's report (1959) is that Fabricius' (1801:408) spelling, *Platyrrhinus,* was an unjustified emendation of *Platyrhinus* Clairville [Schellenberg], 1798, and invalidated any subsequent name of the same spelling because of homonymy. If this were true, *Vampyrops* would be the earliest available name for this genus of bats.

Hall & Kelson (1959:131) listed *Vampyrops* as a junior synonym of *Platyrrhinus* without comment. Hall (1981:144) continued to use *Platyrrhinus* in place of *Vampyrops* and expressed his opinion that *Platyrrhinus* Fabricius, 1801, was merely an incorrect subsequent spelling of *Platyrhinus* Clairville [Schellenberg], 1798, and had no nomenclatural status and, therefore, could not invalidate *Platyrrhinus* Saussure.

We examined Fabricius (1801) and found the double-r spelling of *Platyrhinus* appears only in synonymy (p. 408) and is simply an incorrect subsequent spelling, not an emendation as claimed by de la Torre & Starrett (1959). Then, with the assistance of specialists much more familiar with anthribid beetles and the older entomological literature, we examined the literature up to 1860. We found that *Platyrhinus* as well as Platyrhinidae were commonly spelled with either one or two r's, sometimes with both spellings in the same publication. However, each instance of the double-r spelling was clearly another incorrect subsequent spelling of *Platyrhinus* Schellenberg, not an emendation. We have not carefully examined the post-1860 entomological literature, because any emendation after that date would be invalidated by *Platyrrhinus* Saussure. Our conclusion is that *Platyrrhinus* Saussure, 1860, as used by Hall (1981), Hall & Kelson (1959), and Hershkovitz (1958), is the earliest available name for the genus of bats often referred to under the name of its junior objective synonym *Vampyrops* Peters, 1865a.

There has been confusion over the iden-

tity of the author of the anthribid beetle genus *Platyrhinus*. The work in which the name appears was published simultaneously in French and German. The text is unusual because its German original form, appears on left-facing pages and the translated French form appears first on right-facing pages of each leaf. Schellenberg is the author of the original version; the French translation is by Clairville. Clairville has been credited by a number of authors (e.g., de la Torre & Starrett 1959, Gutfleisch 1859, Hall 1981, Palmer 1904) with the name *Platyrhinus* either because it appears in the French translation ahead (p. 112) of its appearance in the original German (p. 113), or because it was presumed to be the original text as the French translation appears before the German version.

Status of *Anthorhina* Lydekker, 1891

Anthorhina Lydekker, *in* Flower & Lydekker, 1891, is a replacement name for *Tylostoma* Gervais, 1856, which is preoccupied by *Tylostoma* Sharpe, 1849, a genus of gastropods. When proposed by Gervais (1856:49), *Tylostoma* contained two species: *Tylostoma bidens* (=*Vampyrus bidens* Spix) and *Tylostoma crenulatum* (=*Phyllostoma crenulatum* Geoffroy St.-Hilaire). He did not indicate a type species. Palmer (1904:698), while saying *Tylostoma* Gervais was preoccupied by *Tylostoma* Sharpe, 1849, gave "*Phyllostoma bidens* Spix" as the type species.

We examined the content of *Tylostoma* Gervais because we knew that *Anthorhina* Lydekker, *in* Flower & Lydekker, 1891, was a replacement name and that most authors (e.g., Hall 1981, Hall & Kelson 1959, and Miller 1907) considered *Phyllostoma crenulatum* Geoffroy St.-Hilaire to be the type species of *Anthorhina.* However, Palmer (1904) had already in effect designated *Phyllostoma bidens* Spix as the type species of *Tylostoma* Gervais, and (p. 108) the type species of *Anthorhina* (which he consistently misspelled as *Anthorina*). Furthermore, we knew that *Phyllostoma bidens* Spix (=*Vampyrus bidens* Spix, 1823) was the type species of *Tonatia* Gray, 1827, and that *Phyllostoma bidens* could not be the type species of both *Anthorhina* and *Tonatia* unless the genera were synonyms.

In his description of *Tylostoma,* Gervais gave the combined number of premolars and molars as five above and below (2/2 premolars, 3/3 molars). Peters (1856:304) suggested that an examination of Gervais' specimen of "*V*[*ampyrus*]. (*Tylostoma*) *bidens* Spix" might show another premolar in the lower tooth row. Tomes (1861:107) also gave the premolars as two above and below for *Tylostoma,* cited *Vampyrus bidens* Spix as an example, and listed *Phyllostoma childreni* Gray, 1838, in the synonymy. Peters (1865c:514) listed *Phyllostoma childreni* Gray and *Tylostoma bidens* Gervais under *Tylostoma,* saying that, although he did not know these species from personal observation, they could not be identical to *Vampyrus bidens* Spix as claimed by Gervais (1856) and Tomes (1861). The reason was he had examined Spix's specimen and it had six lower cheek teeth on each side. Based on its dental formula, Peters (1865c:509) cited *Vampyrus bidens* Spix under the genus *Lophostoma* (=*Tonatia* Gray, 1827). Gray (1866:114) included *Phyllostoma childreni* under *Tylostoma* as *T. childreni* and gave the premolar count as two above and below.

After visiting the Leiden and British Museums, Peters (1866:674) said the type of *Phyllostoma childreni* Gray had three lower premolars and was the same as *Lophostoma bidens* (Spix). Later, Peters (1869) also changed his opinion about *Tylostoma bidens* Gervais when he was able to examine Gervais' specimen in the Paris Museum. Peters (1869:396) confirmed that it too was the same species as *Vampyrus bidens* Spix with three lower premolars on each side, not two as described by Gervais. Therefore Gervais' identification of his specimen with *Vampyrus bidens* Spix was correct, but the

tooth count was wrong. However, as Peters (1869) confirmed, *Phyllostoma crenulatum* Geoffroy St.-Hilaire, had only two lower premolars and did fit the criteria Gervais (1856:49) established for *Tylostoma.*

Subsequently (e.g., Dobson 1878), *Tylostoma* Gervais was used in the restricted sense exclusively for *Phyllostoma crenulatum* Geoffroy St.-Hilaire, or its synonyms. This also is true of the replacement name *Anthorhina* Lydekker, *in* Flower & Lydekker, after 1891. Simpson (1945) treated *Anthorhina* and *Mimon* as congeneric; as did Handley (1960) who said, "the nominal genera *Anthorhina* and *Mimon* are not distinguishable even as subgenera." However, Husson (1962, 1978) argued for the continued use of *Anthorhina* at the generic level. Other authors (Cabrera 1958, Gardner & Patton 1972, Goodwin & Greenhall 1961, Hill 1964) have used *Anthorhina* as a subgenus of *Mimon.* Although usage following Dobson (1878) clearly was restricted (see ICZN 1985:Article 69b) to the taxon originally described as *Phyllostoma crenulatum* or its synonyms, that usage was invalidated by Palmer (1904) when he designated *Phyllostoma bidens* as the type species of *Tylostoma.*

Our conclusion, in accordance with Article 69a (ICZN 1985), is that *Tylostoma* Gervais, 1856, with type species *Tylostoma bidens* (Spix, 1823) by subsequent designation (Palmer 1904), is a junior objective synonym of *Tonatia* Gray, 1827, because they have the same type species. Therefore, the replacement name *Anthorhina* Lydekker, *in* Flower & Lydekker, 1891, also is a junior synonym of *Tonatia.* Regardless of whether or not the taxa previously called *Anthorhina crenulatum* (Geoffroy St.-Hilaire, 1803) and *Mimon koepckeae* Gardner & Patton, 1972, are considered distinct from the genus *Mimon* at either the generic or subgeneric level, the name *Anthorhina* cannot be used for them. If these taxa are considered distinct genera or subgenera, there is no name available for them. Incidentally, most authors date *Phyllostoma crenulatum* from Geoffroy St.-Hilaire, 1810; however, the correct citation is *Phyllostoma crenulatum* Geoffroy St.-Hilaire, 1803.

Molossus burnesi versus *M. barnesi*

In the original description (Thomas 1905), the spelling *M. burnesi* in the heading of the account was a typesetter's error. Thomas (1905:585) used the spelling *M. barnesi* in the text and said the specimen was presented by W. Barnes. Cabrera (1958:129) used the spelling *Molossus barnesi,* listed both *M. burnesi* and *M. barnesi* in its synonymy, and said that *M. burnesi* was a typographical error. Husson (1962:259), citing Article 32b of the International Code of Zoological Nomenclature (ICZN 1961), claimed that Miller (1913), as first reviser, had fixed the spelling as *M. burnesi,* and that Cabrera's (1958) action was invalid. Carter & Dolan (1978:96) cited Article 32a(ii) and Article 32c (ICZN 1961) in their claim that, because there was internal evidence showing *M. burnesi* to be an error, the name was an incorrect original spelling, had no status, and should be corrected. They corrected the spelling to *M. barnesi.*

Actually Carter & Dolan (1978) and Husson (1962) were both correct as far as the Code is concerned. The original description of *M. barnesi* contained two original spellings of the name as well as internal evidence that the first spelling (*M. burnesi*) was incorrect. Therefore, the first reviser could either select one of the original spellings or cite internal evidence that the first spelling was an error and make the correction. Carter & Dolan (1978) and Husson (1962), however, apparently misunderstood the meaning of the term "reviser" as intended by the Code (ICZN 1961, 1985). To revise a nomenclatural problem involving two or more original spellings, the reviser must show awareness of the different names or spellings and make a selection from among them. Miller (1913) revised the content of

the genus *Molossus,* but did not revise the species *M. barnesi.* Cabrera (1958), as the first reviser, selected the spelling *M. barnesi* and put *M. burnesi* in synonymy. Although valid, the action by Carter & Dolan (1978) was unnecessary.

Authorship of *Diclidurus albus*

When Wied-Neuwied (1820:column 1629) described *Diclidurus* in Oken's Isis, he intended to apply the name *D. freyreisii* (in honor of the collector) to the only known species. Oken (*in* Wied-Neuwied 1820:column 1630, footnote) as editor, substituted *D. albus* for *D. freyreisii* saying that while his majesty [Wied-Neuwied] thought to name the species *D. freyreisii,* we have avoided that because science does not need honors. In other words, he did not believe in patronymics and considered *albus* descriptive of a white bat. Carter & Dolan (1978), although following tradition in assigning authorship of *D. albus* to Wied-Neuwied, suggested that Oken should be credited with authorship. Both Schinz (1821) and Wied-Neuwied (1826) attributed the name to Oken. The suspicion (Carter & Dolan 1978:23) that Wied-Neuwied was unaware of Oken's publication of the account in which the description of *D. albus* appears is unfounded. No one questions attributing authorship of *Diclidurus* to Wied-Neuwied. Clearly Wied-Neuwied prepared the report and Oken made the changes without informing him. Does that make Oken the author of *D. albus*?

This peculiar situation does not appear to be addressed by Article 50 or any other provision of the Code (ICZN 1985). Article 50 states, "The author of a name is the person who first publishes it in a way that satisfies the criteria of availability. . . . If it is clear from the contents of the publication that only one of joint authors, or some other person, is alone responsible both for the name and for satisfying the criteria of availability other than publication, then that person is the author of the name." Wied-Neuwied is alone responsible for satisfying the criteria of availability, but he did not provide the name. Oken clearly is responsible for the name, but he did not satisfy the criteria of availability.

One approach simply is to state the obvious. In the sense of the Code, a name must have an author(s). It follows that if two people are involved and one cannot be the author, then the other must be the author. The name was changed by Oken; however, because Oken did not otherwise satisfy the criteria of availability, he cannot be the author. Therefore, Wied-Neuwied is the author by default.

Another approach is to claim that Oken's substitution of *D. albus* constitutes an unjustified emendation of *D. freyreisii,* the name Wied-Neuwied intended. The major problem with this approach is that *D. freyreisii* was not an established name by 1820. Wied-Neuwied (1826:247) seemed resigned to the name *D. albus* saying that he would have continued using *D. freyreisii* (as he did in 1821) if the legend under the figure (Wied-Neuwied 1820) had not been dropped. Apparently, the legend contained the name *D. freyreisii.* Whichever argument is invoked, we recommend continuing the tradition to attribute authorship of *D. albus* to Wied-Neuwied and consider Oken's action as an example of an editor having gone beyond proper editorial limits.

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